Muhammad Miftah Jauhar (Mr.)

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Profile

I am a Biomedical Engineering graduate from Universitas Gadjah Mada, specializing in biomaterials. I am currently working as a researcher at Nano Center Indonesia. I focus on developing biomaterials and nano drug delivery systems, also translating nanotechnology into practical biomedical and life science solutions, including client-driven product development and industrial problem-solving.

Scientific Profile (December 2025)

Google Scholar
Citations: 121
H-index: 7

Scopus
Citations: 87
H-index: 6

Educations

Bachelor of Science in Biology **August 2016 – January 2021**
Universitas Gadjah Mada **GPA 3.54 out of 4.00**
Thesis title: mRNA Gene Expression Level of Caspase-3, -8, and -9 in Tumor Tissue of Rats (*Rattus norvegicus* Berkenhout, 1769) Using Static Electric Field Exposure.

Master of Science in Biomedical Engineering **August 2023 – June 2025**
Universitas Gadjah Mada **GPA 3.98 out of 4.00**
Thesis title: Curcumin-Loaded Crosslinked PVA-Gelatin Electrospun Nanofiber for Chicken Spoilage Real-Time Detection.

Work Experiences

Senior Researcher **October 2021 – present**
Nano Center Indonesia
As a Senior Researcher at Nano Center Indonesia, I lead nanotechnology R&D projects, manage client communications, and ensure project milestones are met. I am also making research collaborations with universities and contributing to scientific output through journal publications and patents.

Research Assistance **February 2024 –**
National Research and Innovation Agency (BRIN) **February 2025**
Conducted research on nanomaterial development for biomedical applications: synthesis, characterization, and biological evaluation of nanofiber-loaded curcumin nanoemulsion for wound dressing membrane.

Research Assistance **October 2018 –**
Faculty of Biology, Universitas Gadjah Mada **December 2020**

The research examined preclinical research on cancer therapy. My primary responsibilities were handling rats for animal research, bone marrow preparation, and gene expression analysis. When preparing bone marrow from rats, I became the first person in the Faculty of Biology UGM to make a new protocol for extracting bone marrow from a rat's femur.

Some Research Grants

Research Leader **2025**
Development of a Portable Electrochemical Sensor Based on PVDF-Zein Nanofibers for Cardiac Troponin I Detection **Collaborator: Bandung Institute of Technology**
Grant: ITB Internal's Grant Research

Research Leader **2024**
Synthesis and Characterization of Natural Polymer-Based Nanofiber Composite Materials for Wound Healing Membrane Development **Collaborator: Mercu Buana University**
Grant: *Kolaborasi Dalam Negeri* (KDN) UMB

Research Leader **2023**
DNA-Chitosan-Lipid Nanoparticle Characterization for DNA Drug Delivery **Collaborator: BRIN**
Grant: *Riset dan Inovasi untuk Indonesia Maju* (RIIM) BRIN

Main tasks: as a Research Leader, I lead end-to-end research activities, from concept development and proposal writing to collaboration, agreement negotiation, and technical execution. Ensure project milestones and research outcomes are delivered effectively and aligned with grant objectives.

Some Publications

Syaifie, Putri Hawa, et al. "Nanoencapsulation of East Kalimantan Propolis with Chitosan using Modified Ionic Gelation: Enhanced Antioxidant and Selective Anticancer Activity." *Food and Bioproducts Processing* (2025).

Siregar, Khalish Arsy Al Khairy, et al. "Revealing curcumin therapeutic targets on SRC, PPARG, MAPK8 and HSP90 as liver cirrhosis therapy based on comprehensive bioinformatic study." *Journal of Biomolecular Structure and Dynamics* 43.6 (2025): 3172-3189.

Jauhar, Muhammad Miftah, et al. "Bioinformatics design of peptide binding to the human cardiac troponin I (cTnI) in biosensor development for myocardial infarction diagnosis." *Plos one* 19.10 (2024): e0305770.

Simanjuntak, Masriana Vivi, et al. "Revealing propolis potential activity on inhibiting estrogen receptor and heat shock protein 90 overexpressed in breast cancer by bioinformatics approaches." *Bioinformatics and Biology Insights* 18 (2024):

11779322231224187.

Jauhar, Muhammad Miftah, et al. "Evaluation of propolis activity as sucrose-dependent and sucrose-independent Streptococcus mutans inhibitors to treat dental caries using an in silico approach." *Journal of Applied Pharmaceutical Science* 13.3 (2023): 071-080.

Project Experiences

Project Leader **December 2025 – present**
Liposome Nanoparticles Intranasal Drug Delivery for Alzheimer Therapy

Project Leader **January 2025 – present**
Product Development of Hydrogel-based Ointment for Wound Healing

Project Leader **June 2024 – June 2025**
Product Development of Natural-based Polymer for Palm Oil Recovery

Main tasks: as Project Leader, I lead the development of a research-based product, overseeing research planning, progress monitoring, and client communication. I ensure the product meets technical goals while aligning development costs with client expectations.

Seminar and Conference Experiences

Oral Presenter **November 2018**
National Seminar on Biodiversity Indonesia

Oral Presenter **August 2023**
AsiaSense International Sensor Conference

Awards

Awardee of Nano Graduate Program Scholarship **October 2021 – August 2023**

Nano Graduate Program (NGP) is a scholarship that is given by Nano Center Indonesia. This program hired people in Indonesia to conduct nanotechnology research, especially in advanced materials, waste treatment, and life sciences disciplines, within two years.

Awardee of *Rumah Kepemimpinan* Scholarship **May 2018 – May 2020**

Rumah Kepemimpinan Scholarship is one of the boarding home scholarship types in Indonesia. It gave this scholarship to the awardee to achieve excellence in academic or non-academic fields. I obtained some benefits from this scholarship, such as goal setting, alumni networking, and leadership skills.

Professional/Technical Skills

Technical Skills	: Preclinical research (in vivo), cell culture research (in vitro), molecular analysis, computational research, nanoparticle synthesis and characterization.
Organizational Skills	: Communication, leadership, monitoring, and evaluation, responsibility.

Languages

Bahasa Indonesia	: Native proficiency
English	: IELTS, Band 6 (listening: 5,5; reading: 7,5; writing: 6; speaking: 5)